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ABSTRACT

The third follow-up survey of the National Longitudinal Study (NLS) of the High School Class of 1972 was conducted from October, 1976 to May, 1977. From the data gathered, some of the following observations were made: (1) postsecondary school attendance declined from 54 to 25 percent from 1972 to 1976; (2) 39 percent of students who started academic programs in 1972 had obtained a bachelor's degree; 26 percent were still enrolled, and 35 percent had dropped out; (3) only 20 percent of those with bachelor's degrees had enrolled in graduate or professional school; (4) 72 percent were working either full or part-time, 9 percent were unemployed, and 19 percent were not in the labor force; (5) 36 percent of the men and 53 percent of the women were or had been married; (6) more persons belonged to a church than to any other voluntary organization; (7) respondents claimed to have experienced little sex discrimination in education; many blacks and Hispanics felt they had experienced racial discrimination in education, although more felt they had been given special advantages because of their race; and (8) nearly two-thirds believed their high schools should have emphasized vocational programs and practical work experience more. (MH)

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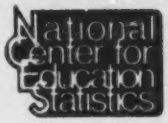

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NATIONAL LONGITUDINAL STUDY: A CAPSULE DESCRIPTION OF YOUNG ADULTS FOUR AND ONE-HALF YEARS AFTER HIGH SCHOOL

By

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Center for Educational Research and Evaluation
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RTI/884/51-01 S

Prepared for

National Center for Education Statistics
U.S. Department of Health, Education, and Welfare
February 1979

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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NATIONAL LONGITUDINAL STUDY: A CAPSULE DESCRIPTION OF YOUNG ADULTS FOUR AND ONE-HALF YEARS AFTER HIGH SCHOOL

Elmer F. Collins, Project Officer

Prepared for

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HIGHLIGHTS

The following estimates were derived from data provided by participants in the third follow-up survey of the National Longitudinal Study of the High School Class of 1972:

- Postsecondary school attendance dropped from 54 to 40 percent between October 1972 and October 1974 and to 25 percent by October 1976.
- Of those who entered academic programs in fall 1972, 39 percent had obtained a bachelor's degree by October 1976, 26 percent were still enrolled, and 35 percent had dropped out. Women were more likely than men to have graduated on schedule.
- There were more members of the Class of 1972 who were still attending college as undergraduates (17 percent) in October 1976 than had graduated (16 percent). About one-third of those still enrolled are delayed entrants, i.e., students who did not start on schedule, and about one-fifth are dropouts who returned.
- Only one in five of those with bachelor's degrees was enrolled in graduate or professional school in October 1976, the figure being somewhat higher for males than females. According to these students, reputation and quality of the institution or department were the most important factors in choosing where to go for advanced studies.
- As of October 1976, 72 percent were working at either full- or part-time jobs, about 9 percent were unemployed, and 19 percent were not in the labor force. Also, as many women as men held professional or managerial jobs.
- The average salary of the recent college graduates with full-time jobs was $9,500. Among college graduates not in school, about 93 percent of those with engineering degrees were employed full time, while only 68 percent of those with degrees in the biological sciences fell in this category as of October 1976.
- As of October 1976, 36 percent of the men and 53 percent of the women were or had been married, about 10 percent of those ever married were divorced or separated, and 23 percent of all persons had at least one child. Thirty percent of low-ability whites and 49 percent of low-ability blacks reported having children.
- More persons (33 percent) were members of a church than any other type of voluntary association. Single men and women were more likely to participate in organizations other than church than were married people.
- The Class of 1972 claims to have experienced little sex discrimination in education, and few whites believe they have been treated unfairly because of race. A substantial number of blacks and Hispanics, in contrast, claim to have been treated unfairly in getting a good education. Interestingly enough, even more claim to have been given special advantage because of their race.
- The feelings of the Class of 1972 about high school were more negative in 1976 than they were when they graduated in 1972. According to responses to the 1976 survey, nearly two-thirds believe their school should have placed more emphasis on vocational programs and practical work experience.

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FOREWORD

The National Longitudinal Study of the High School Class of 1972 (NLS) was designed to provide an ongoing and updated data base containing statistics on a national sample of seniors as they move out of the American high school system into the critical years of early adulthood. It began with a group-administered survey of these young adults conducted in spring 1972 prior to their leaving high school. This was followed by a series of periodic mail and personal interview follow-up surveys. The first follow-up survey was conducted from October 1973 to April 1974, the second from October 1974 to April 1975, and the third from October 1976 to April 1977. The purpose of these surveys was to obtain information about the basic educational and vocational activities of young adults and their continuing or revised plans, aspirations, and attitudes. The data collected from the in-school and follow-up surveys have been merged and processed. Preliminary results are being presented in a series of reports designed to highlight selected findings in educational, career, and occupational development.

This report (one in the series), taken from the analysis of responses to the survey, is a summary of some descriptive information about the education, work, family, and community activities of these young adults since leaving high school.

Many details are not included in this report because its purpose is to highlight and release some of the preliminary findings. Readers who are interested in more complete statistics should refer to the *Tabular Summary of the Third Follow-Up Questionnaire Data*. The summary contains weighted percentage tabulations of responses to all questions for the total population and 92 important subgroups.

Marjorie O. Chandler, Acting Director
Division of Multilevel Education Statistics

Elmer F. Collins, Chief
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ACKNOWLEDGMENTS

Many people contributed generously to the design and development of the third follow-up survey of the National Longitudinal Study of the High School Class of 1972.

During this phase of the NLS, a group of prominent educational administrators and researchers gave valuable advice regarding the progress, priorities, and purposes of the study at a planning conference held on October 1-3, 1975. Panel members and their affiliations at the time of the conference are listed below.

Jerald Bachman	University of Michigan
Lawrence E. Gladieux	College Entrance Examination Board
Gene V. Glass	University of Colorado
Walter Howard	Texas Education Agency
Edward L. McDill	Johns Hopkins University
David Mundel	U.S. Congressional Budget Office
Ernst W. Stromsdorfer	Department of Labor
Robert I. Wise	National Institute of Education

T. R. Collins and R. J. Talbert of the Research Triangle Institute (RTI) had primary responsibility for the development of the Third Follow-Up Questionnaire. They were greatly assisted in this task by B. K. Eckland of the University of North Carolina and were guided throughout by the advice of a users committee consisting of the following representatives of various governmental organizations:

Phillip E. Austin	Office of the Assistant Secretary for Education
Kate Arbogast Avery	Office of the Assistant Secretary for Education
Robert Berls	Office of Planning, Budgeting, and Evaluation
Michael Borus	Department of Labor
O. Jean Brandes	National Center for Education Statistics
Leroy A. Cornelsen	Bureau of Occupational and Adult Education
Salvatore B. Corrallo	Office of Planning, Budgeting, and Evaluation
Emmett L. Fleming	Office of Planning, Budgeting, and Evaluation
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George Hall	Office of Management and Budget
William K. Hubbard	Bureau of Postsecondary Education
Mary G. Lovell	Bureau of Occupational and Adult Education
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Harry Travis	Office of the Assistant Secretary for Planning and Evaluation
Joseph Teresa	National Center for Education Statistics
Katherine Wallman	Office of Management and Budget
Gerald R. Wheaton	Office of the Assistant Secretary for Planning and Evaluation
Robert I. Wise	National Institute of Education

The third follow-up survey was conducted under the leadership of E. F. Collins, the NCES project officer, who, along with NCES staff members K. A. Tabler, W. B. Fetters, A. K. Kolstad, and F. R. Melone, provided guidance throughout the third follow-up survey. Project directors for the survey's prime contractor, RTI, were J. P. Bailey, Jr. (through July 1, 1977), and J. R. Levinsohn.

D. A. King of RTI was responsible for receipt control, editing, and keying operations; R. H. Thornton, also of RTI, directed data processing and tape development activities.

The names of other persons who helped plan and carry out the study are too numerous to mention, and we can only express our appreciation to them collectively.

A final work of acknowledgment and an expression of gratitude is due to the more than 20,000 young adults who took the time and effort to provide us with comprehensive, detailed information about their lives and to the participating schools that made it possible to initiate the study.

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I. INTRODUCTION

The National Longitudinal Study (NLS) is a large-scale survey project whose primary purpose is the observation of the educational and vocational activities, plans, aspirations, and attitudes of young people after they leave high school. It will allow for investigations of the relationships of this information to the prior educational experiences and personal and biographical characteristics of the high school Class of 1972. Ultimately, the study will allow a better understanding of the development of students as they pass through the American educational system and of the complex factors associated with individual eductional and career outcomes. Such information is essential as a basis for effective planning, implementation, and evaluation of Federal policies and programs designed to enhance educational opportunity and achievement and to upgrade occupational attainments and career outcomes.

Following a rather extensive period of planning, which included the design and field test of survey instrumentation and procedures, a full-scale survey was initiated in spring 1972. The sample design called for a deeply stratified national probability sample of 1,200 schools with 18 seniors per school, school size permitting. The resulting base-year sample of 18,143 students from 1,044 high schools provided base-year data on up to three data-collection forms—a Test Battery, a Student Record Information Form, and a Student Questionnaire. The key form, the Student Questionnaire, was completed by 16,683 seniors.

The first follow-up survey began in October 1973 and ended in April 1974. Added to the base-year sample were 4,450 seniors from the Class of 1972 in 256 additional schools that had been unable to participate earlier, as well as more than 1,000 students who had been classified as base-year nonparticipants. This brought the total first follow-up sample to 23,451 potential respondents. First follow-up forms were mailed to 22,654 students.

There were 21,350 sample members who completed a First Follow-Up Questionnaire, 69 percent by mail and 31 percent by personal interview. Of the 16,683 seniors who completed a Student Questionnaire, 15,635 took part in the first follow-up survey—a sample retention rate of 93.7 percent.

The second follow-up survey began in October 1974, when forms were sent to 22,364 potential respondents, and ended in April 1975. There were 20,872 who completed a Second Follow-Up Questionnaire, 72 percent by mail and 28 percent by personal interview. Of the 21,350 persons who completed a First Follow-Up Questionnaire, 20,194 (94.6 percent) also participated in the second follow-up survey.

The third follow-up survey began in October 1976 and ended in May 1977. Questionnaires were mailed to the last known addresses of the sample members whose addresses appeared sufficient and correct and who had not been removed from active status by prior refusal, reported death, or other reason. Some 20,092 members completed a Third Follow-Up Questionnaire, 80 percent by mail and 20 percent by personal interview. The sample retention rate from the second to the third follow-up survey was 94 percent; the retention rate over the four and one-half years between the base year and third follow-up surveys was 88 percent. Approximately 85 percent of those completing student questionnaires in the base year participated in all three follow-up surveys.

Current planning calls for at least one more follow-up survey in the next few years. The potential uses for the information being gathered by these studies are many; the broad data base and succession of observed effects will fill a widespread need on the part of educational researchers and administrators for information on the flow of young adults through the postsecondary occupational educational system. The data will provide insight for identifying and understanding the major branching or decision points that affect the educational and life patterns of individuals in the period following secondary school.

The information presented in this capsule report is based mainly on the third follow-up, and thus generally refers to the October 1976 data. However, some statistics have been analyzed in relation to the previous follow-up data and thereby make use of the longitudinal nature of the survey. The significance of these findings, and of other follow-up information not discussed in this report, will be greatly enhanced when they are analyzed in more detail and in relation to the base-year data as well. In-depth analysis of this kind is in progress and will be presented in subsequent reports.

II. WHAT ARE THEY DOING NOW?

The first item that appeared in the Third Follow Up Questionnaire asked, "What were you doing the first week of October 1976?" An almost identical item also appeared in the Second Follow-Up Questionnaire in reference to "the first week of October 1974." In each case, respondents were instructed to check as many categories as applied from a list of precoded activity states. Comparisons of the major activities of all respondents reported for these years reveal the following:

- The number of persons working and looking for work increased between October 1974 and October 1976. Whereas in 1974 an estimated 68 percent of the Class of 1972 were employed in full- or part-time jobs, 72 percent were working for pay two years later. Among those not holding jobs in October 1974, one out of five was looking for work—this figure had risen to one out of three as of October 1976.
- The percent of women stating they were "homemakers" climbed rapidly from 29 percent in fall 1974 to 42 percent by fall 1976.
- There was a 30 percent drop in the number of students taking academic courses at a two- or four-year college, from 34 percent in October 1974 to 17 percent in October 1976. This was expected because more than one-third of those who entered academic programs in fall 1972 had obtained bachelor's degrees by fall 1976.
- The proportion of men in the military

TABLE 1. OCTOBER 1976 ACTIVITY STATES, BY RACIAL-ETHNIC GROUP AND SEX*

Activity States in October 1976	Men			Women			All Persons†
	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	
	Percent in Activity						
Working for pay at a full- or part-time job	78	73	81	68	66	65	72 (68)‡
Taking academic courses at a 2- or 4-year college	20	17	20	14	17	17	17 (34)
Enrolled in a graduate or professional school	6	4	3	4	4	3	5
Taking vocational or technical courses at any kind of school or college	4	6	4	3	4	3	4 (6)
On active duty in the Armed Forces	6	12	6	1	1	1	4 (5)
Homemaker	1	2	1	43	31	46	22 (15)
Temporary layoff from work, looking for work, or waiting to report to work	8	13	9	8	16	9	9 (6)
Other	4	3	3	4	4	2	4 (4)
Total	123	129	127	146	143	146	138 (138)
	Number						
Respondents	7,700	1,124	419	7,755	1,555	413	20,081

*Since some respondents indicated more than one activity, column totals do not add to 100 percent.

†Includes American Indians, Asian Americans, and other ethnic groups, as well as persons not classifiable by ethnic group membership or sex.

‡Numbers in parentheses represent parallel percentages for October 1974 activity states.

service also had declined from 9 percent to about 6 percent between October 1974 and October 1976.

As noted in Table 1, there are a number of large racial-ethnic and sex differences in the October 1976 activity states. For instance, just as was found two years earlier, the percentage of men within each racial-ethnic group working at full- or part-time jobs was higher than the percentage of women so classified.

The percentage of respondents on temporary layoff, looking for work, or waiting to report to work continues to be substantially higher for blacks than for whites or Hispanics, just as in previous years. The problem in October 1976 was especially severe for black women, 16 percent of whom were looking for work as compared to about 8 percent of the white and Hispanic women.

In other respects, women of different races did not significantly differ from one another. About the same proportions of white, black, and Hispanic women were still taking academic courses in college, attending vocational or trade schools, or were enrolled in graduate or professional schools.

One of the most pronounced racial-ethnic group differences among men continues to be the disproportionate number of blacks in the military, a fact that was documented in all of the earlier follow-ups. Although military participation for all groups had dropped over the two years between follow-up surveys, blacks were twice as likely as whites or Hispanics to be on active duty in the Armed Forces in October 1976.

The other noteworthy racial-ethnic difference among men is the dual finding that fewer blacks were employed and more were looking for work in October 1976. In the following sections some of these results are examined in greater detail.

III. POSTSECONDARY EDUCATION: THE FIRST FOUR AND ONE-HALF YEARS

A. Attendance Status Trends

Between October 1972 and October 1976, the percentage of students attending some form of postsecondary school or college continually declined:

Date	Percent
October 1972	54
October 1973	45
October 1974	40
October 1975	37
October 1976	25

As Figure 1 shows, the decline was about the same for whites, blacks, and Hispanics between 1972 and 1975 even though enrollments were consistently higher for whites during those years. By October 1976, however, the percentages had dropped to a point where they were virtually identical for all three groups.

The remainder of this and the next section present some findings concerning attrition from postsecondary schools, as well as other questions about the educational progress of the NLS Class of 1972. But first, the actual accomplishments of these students at the end of four years are described.

B. Educational Attainment, October 1976

Patterns of higher education attainment by educational expectations in 1972 are shown in Figure 2 and Table 2. Only about one person in six had obtained a bachelor's degree or attended graduate or professional school by October 1976. Some of those who did not finish, of course, were dropouts. However, many persons were still pursuing a college degree in Oc-

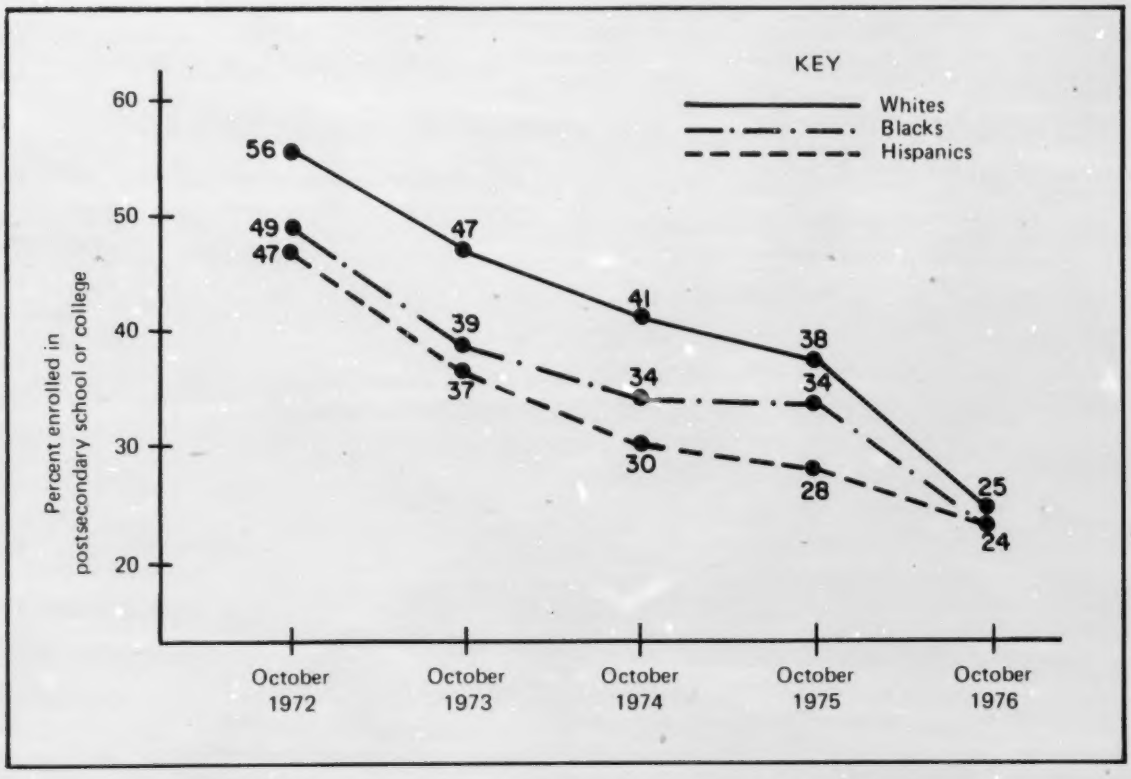

Figure 1. Enrollment in school or college, by racial-ethnic group.

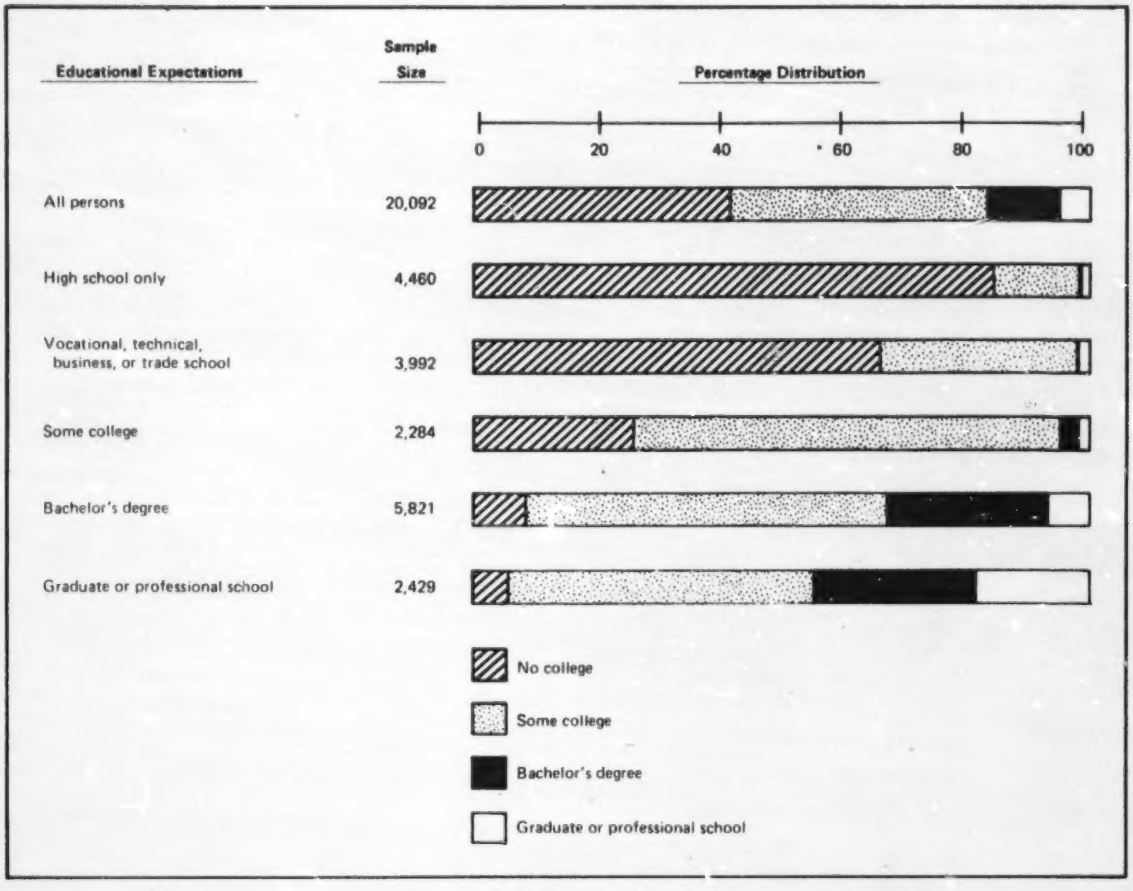

Figure 2. Higher education attainment of Class of 1972 by their educational expectations when high school seniors; October 1976.

TABLE 2. HIGHER EDUCATION ATTAINMENT OF CLASS OF 1972 BY THEIR EDUCATIONAL EXPECTATIONS WHEN HIGH SCHOOL SENIORS; OCTOBER 1976
(supporting table for Figure 2)*

Educational Attainment October 1976	Educational Expectations: High School or Less	Voc-Tech	Some College	Bachelor's Degree	Graduate School	Total
			Percent			
No college	85.9	67.0	25.9	8.0	5.6	41.9
Some college	13.6	32.2	70.0	60.0	50.0	42.2
Bachelor's degree	0.3	0.4	3.1	26.1	26.0	11.7
Graduate or professional school	0.2	0.4	0.9	5.9	18.4	4.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
			Number			
Sample size	4,460	3,992	2,284	5,821	2,429	20,092

*Includes American Indians, Asian Americans, and other ethnic groups, as well as persons not classifiable by educational expectations.

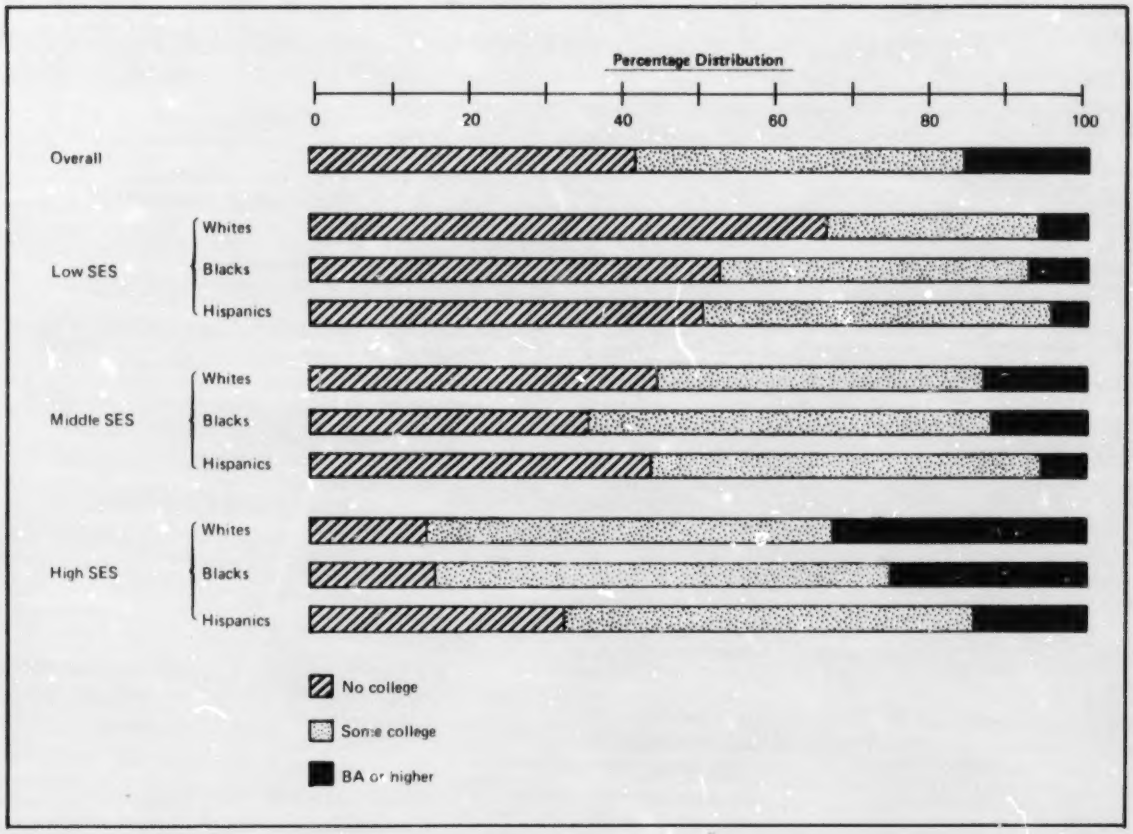

Figure 3. Highest level of educational attainment for whites, blacks, and Hispanics by socioeconomic level; October 1976.

TABLE 3. HIGHEST LEVEL OF EDUCATIONAL ATTAINMENT FOR WHITES, BLACKS, AND HISPANICS BY SOCIOECONOMIC LEVEL; OCTOBER 1976
(supporting table for Figure 3)*

College Attainment October, 1976	Low SES			Middle SES			High SES			All Persons*
	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic	
					Percent					
No college	67.0	53.0	50.4	45.5	35.5	43.9	14.1	15.4	32.8	41.9
Some college	27.3	39.9	45.7	41.6	51.8	50.9	53.6	59.6	53.4	42.2
BA or higher	5.7	7.2	4.0	12.9	12.6	5.3	32.2	25.0	13.8	15.9
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
					Number					
Sample size	3,067	1,666	532	7,988	818	245	4,307	141	50	20,092

*Includes American Indians, Asian Americans, and other ethnic groups, as well as persons not classifiable by ethnic group or SES.

tober 1976, a subject which will be discussed later in this report.

Closer examination of the table and figure reveals that educational expectations are very strongly related to educational attainment. Of those expecting only high school completion or less, only 14 percent had ever attended college, and fewer than 1 percent had obtained a bachelor's degree. On the other hand, 94 percent of those expecting to attend graduate school had attended college by October 1976; and 44 percent of this high expectation group had already obtained a bachelor's degree or been enrolled in graduate or professional school.

Figure 3 and Table 3 present educational attainment for groups defined by family, socioeconomic status (SES), and ethnicity. Inspection of these data reveals some interesting findings. For those with low and middle SES backgrounds, whites were less likely to have attended college than blacks or Hispanics. Only in the high SES group were whites more likely to have attended college.

Looking at educational attainment in terms of receipt of a bachelor's degree or graduate or professional school attendance, one finds that Hispanics had the lowest attainment rates at each SES level—less than one-half the rates for whites in the middle and high SES categories.

C. College Dropouts and Graduates

To obtain a clearer picture of the progress of the college students, the following discussion is restricted to those students who entered *academic programs* immediately after high school, i.e., in fall 1972. Of this group, only 39 percent had graduated on schedule by fall 1976, 26 percent were still enrolled in undergraduate programs, and 35 percent had dropped out without graduating and were no longer attending college.

As shown in Table 4, no major difference exists between men and women in the percent who withdrew from college and had not returned by October 1976. On the other hand, women were more likely to have graduated on schedule, whereas more men than women were still enrolled and studying for a bachelor's degree. It would appear then that the male rate of college graduation eventually may equal the female rate. Other studies have found that women are more likely to graduate on schedule, but that more men than women eventually graduate.

The most pronounced differences shown in Table 4 actually are between the racial-ethnic groups. Once again, the college graduation rates are much higher for whites than blacks, and higher for blacks than Hispanics. These differences apparently are not a consequence of minority students simply taking longer to obtain a degree. Within each sex, there are no important race differences in the proportion of students without degrees who are still enrolled. Rather, the lower graduation rates for minorities appear to be a function of differences in the dropout rates rather than in the amount of time taken to finish their degrees. Among men, 34 percent of the whites, 43 percent of the blacks, and 57 percent of the Hispanics had dropped out without graduating

TABLE 4. ENROLLMENT AND DEGREE STATUS OF 1972 ACADEMIC COLLEGE ENTRANTS AS OF OCTOBER 1976, BY RACIAL-ETHNIC GROUP AND SEX

Educational Status as of October 1976	Whites		Blacks		Hispanics		All Persons*
	Men	Women	Men	Women	Men	Women	
				Percent			
TOTALS	100	100	100	100	100	100	100
Dropouts	34	34	43	46	57	54	35
No degree, but still enrolled	30	20	30	22	29	28	26
Graduated	36	46	27	32	14	18	39
				Number			
Respondents	3,352	2,892	335	506	137	113	7,697

*Includes American Indians, Asian Americans, and other ethnic groups, as well as persons not classified by ethnic group membership or sex.

and were no longer enrolled. The corresponding figures were almost identical for women.

D. The Persisters

As indicated above, a substantial portion of the students who had enrolled in college-level academic programs in fall 1972 were studying for a bachelor's degree four years later. The number of students still attending college in October 1976 as undergraduates, however, is substantially larger when the delayed entrants are considered. Altogether, in fact, there were more NLS respondents attending college as undergraduates in October 1976 (17 percent) than had obtained a bachelor's degree on schedule (16 percent). Figure 4 gives a general picture of who these "persisters" are.

Three percent of students in undergraduate programs in October 1976 had already graduated, but for one reason or another were back in college taking academic undergraduate courses. Some of these students may have been waiting to enter graduate school. An additional 34 percent of the persisters were delayed entrants, i.e., they had matriculated or entered an academic program sometime after October 1972. Delayed entry, then, accounts for about one-third of the fall 1976 undergraduates who are members of the high school Class of 1972.

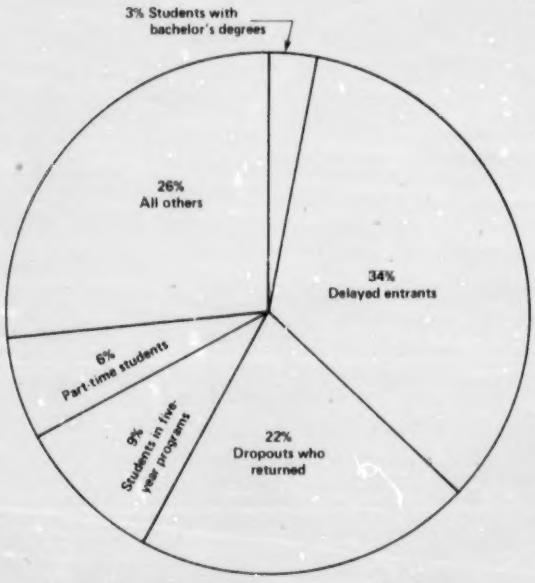

Figure 4. A profile of students who were enrolled in academic undergraduate programs in October 1976.

Twenty-two percent of the total had dropped out of college sometime between 1972 and 1976 but had eventually returned. Thus, students who matriculated in 1972, dropped out, and later returned account for more than one-fifth of all current undergraduate enrollments among this group.

Another easily identifiable category of students who make up the persisters are those enrolled in five-year bachelor's degree programs. Based upon responses to an item from the Second Follow-Up Questionnaire, it was found that 9 percent of those enrolled had not yet graduated because they were in programs normally taking more than four years to complete.

There are two more groups included in Figure 4. The first are undergraduates who started on schedule and never dropped out, but had attended college on a part time basis sometime before 1976. Presumably, this would have caused them to deviate from the typical schedule of college attendance. These represent another 6 percent of the persisters.

This leaves 26 percent of the currently enrolled undergraduates not yet accounted for. These students all started on schedule, have been in full-time attendance each October since 1972, and are still studying for a four-year degree. While an undetermined number of these students could have dropped out for short periods other than in the fall, other factors not examined probably are also involved in their delay, such as changing college majors or transferring from one institution to another. Both of these events frequently increase the number of credit hours needed for graduation.

In summary, it appears that two factors account for more than half of the respondents from the high school Class of 1972 who were still enrolled in college as undergraduates in October 1976. One is the fact that many students did not matriculate immediately after leaving high school but waited a year or more before enrolling in college. The second is that, of those who started on time and are still enrolled, many had dropped out for an unspecified period and later returned.

IV. GRADUATE AND PROFESSIONAL SCHOOL

Twenty-one percent of the students who graduated from college on schedule were enrolled in graduate or professional school as of October 1976. Figure 5 shows that the rates of attendance did not differ particularly by racial-ethnic group but did differ by sex. Although women, as noted earlier, were more likely than men to graduate from college on schedule, men were more likely than women to enter graduate school for advanced degrees. This generalization holds for both whites and blacks.

The distribution of these students across different fields of graduate study is shown in Table 5.

About one-third (35 percent) of the students who graduated on schedule and went on to graduate school entered professional degree programs such as law, medicine, dentistry, or theology. However, the sex difference is notable. Only 20 percent of postgraduate women compared to 43 percent of postgraduate men were enrolled in professional degree programs. The sex ratio for this group, which partially reflects the larger number of men who entered all forms of postgraduate education, is 2.8:1. This means there were 2.8 men for every one woman from the NLS High School Class of 1972 who were enrolled in professional degree programs in October 1976.

Students studying for advanced degrees in schools of education comprised the second largest category, representing 14 percent of all entrants. Within this category were found 26 percent of the women and only 6 percent of the men. For every man entering a graduate program in education, there were 3.3 women.

In addition to education, the only other female-dominated fields were the health services (nursing, occupational therapy, etc.) and the humanities and fine arts (music, English, etc.). The sex ratios for these groups were 1:13.3 and 1:1.8, respectively. The professional degree programs in law and medicine continue to be male dominated. Not surprisingly, the other male-dominated fields were business (2.6:1), physical sciences and mathematics (3.5:1), biological sciences (1.6:1), and engineering (4.3:1). Only the social sciences show the same number of men and women seeking advanced degrees.

Even though black college graduates were about as likely to go to graduate school as

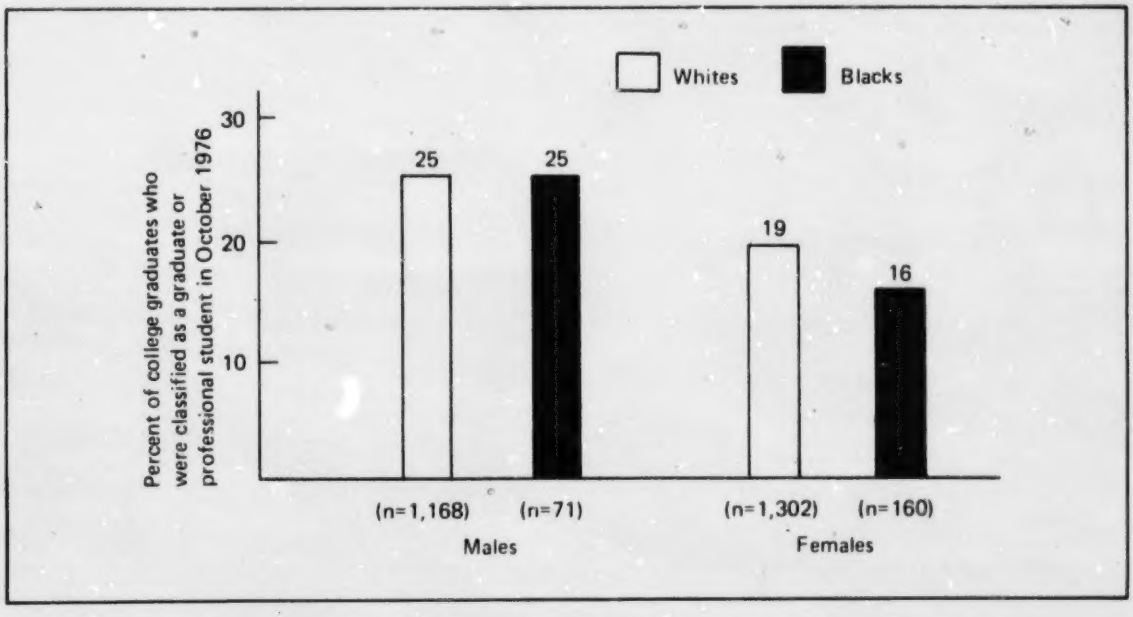

Figure 5. College graduates who went to graduate or professional school.

TABLE 5. FIELDS OF GRADUATE STUDY THE NLS STUDENTS ENTERED, BY SEX

Fields of Graduate Study	Males	Females	All Entrants	Sex Ratio Within Each Field (males to females)
	Percent Enrolled			
TOTALS	100	100	100	1.3:1
Professional program in law, medicine, dentistry, etc.	43	20	35	2.8:1
Education	6	26	14	1:3.3
Business	12	6	9	2.6:1
Humanities and fine arts	6	13	9	1:1.8
Social sciences	7	10	8	1:1
Physical sciences and mathematics	8	3	6	3.5:1
Biological sciences	6	5	5	1.6:1
Engineering	6	2	4	4.3:1
Health services	1	7	3	1:13.3
Other or unknown	6	8	7	1:1
		Number		
Respondents	316	247	563	

whites, their numbers in the NLS are too small to provide meaningful comparisons by fields of graduate study. Nevertheless, it should be noted that of the 18 black men in the postgraduate sample, 10 entered professional degree programs, five enrolled for advanced degrees in business, and three were enrolled in other graduate programs. Of the 25 black women who entered graduate school, six enrolled for advanced degrees in the social sciences, four entered professional degree programs, four entered education programs, and the remaining 11 were in other fields.

V. EMPLOYMENT

Seventy-two percent of the NLS Class of 1972 were working for pay as of October 1976, and 9 percent were looking for work. This section presents information on the kinds of jobs all respondents held in both 1974 and 1976, and on employment rates and salaries for the recent college graduates.

A. Occupational Status, October 1974 and October 1976

The distributions in Table 6 apply to all persons in the civilian labor force irrespective of their student status or whether they were working full or part time. In comparing the overall figures for each year, the most marked shift is the increase in the professional-managerial category, which went from 10 to 23 percent between 1974 and 1976. This probably reflects, in large part, entry of the recent college graduates into full-time, higher status jobs.

The increase in professional-managerial occupations, moreover, was substantial for all racial-ethnic and sex groups, although more for some than others. For example, there were more white men than white women employed in these high-status jobs in 1974, 12 versus 9 percent, respectively. But by October 1976, the differential had disappeared. Over the two years, the proportion in professional-managerial jobs had doubled among white men but had nearly tripled among white women. This no doubt reflects the entry of college graduates into the labor force. It was noted earlier that a substantially larger proportion of women than men had graduated on schedule and, of those who graduated, women were less likely to go on to graduate school. Both of these factors would tend to have increased the likelihood of more female than male college graduates being in the labor market in October 1976 and having presumably higher status jobs.

TABLE 6. OCCUPATIONAL DISTRIBUTION FOR EMPLOYED RESPONDENTS BY SEX AND RACIAL-ETHNIC GROUP

Occupational Category as of . . .	Men			Women			All Workers*
	Whites	Blacks	Hispanics	Whites	Blacks	Hispanics	
October 1976							
			Percent Employed				
TOTALS	100	100	100	100	100	100	100
Professional and managerial	24	16	23	25	14	14	23
Clerical and sales	17	19	20	50	51	69	33
Craftsmen	22	15	17	2	1	1	12
Operators, service workers, farmers, and laborers	38	51	39	23	34	16	32
Number of respondents	5,886	773	324	5,393	1,027	268	14,438
October 1974							
			Percent Employed				
TOTALS	100	100	100	100	100	100	100
Professional and managerial	12	7	9	9	5	5	10
Clerical and sales	17	19	22	59	56	68	37
Craftsmen	21	16	16	2	2	3	12
Operators, service workers, farmers, and laborers	50	59	53	31	37	24	42
Number of respondents	5,334	711	322	5,052	918	277	13,280

*Includes American Indians, Asian Americans, and other ethnic groups, as well as persons not classified by ethnic group membership or sex.

Sex differences in other sectors of the economy continue to be very large within all racial-ethnic groups. Young women still are employed predominantly in clerical and sales jobs, while almost all persons listed as craftsmen are men.

Differences between blacks and whites appear to be more pronounced in 1976 than they were in 1974, with blacks substantially underrepresented in the professional-managerial category and overrepresented in the least remunerative occupations, such as the group consisting of operatives, service workers, farmers, and laborers. The situation for Hispanics is not the same as for blacks; the occupational distributions of the Hispanic and white males were almost identical in 1976. Hispanic women, however, are underrepresented among professionals and managers and overrepresented in clerical and sales work compared to other women.

B. College Graduates With Jobs

Of the college graduates who were not still in school as of October 1976, three out of four were employed full time. For those with full-time jobs, the average annual salary was approximately $9,500. As may be seen in Table 7, considerable differences exist among the graduates in different fields with respect to both full-time employment and average annual salary of those employed full time.

The graduates in the arts and sciences differ markedly from those in all of the applied fields, including agriculture, business, education, engineering, and the health services. Full-time employment for those in the applied fields ranges from 73 to 93 percent according to specific fields, while for those in the sciences and humanities it ranges from 61 to 84 percent. Similarly, average annual salaries were generally higher for those in the applied fields.

Among the liberal arts graduates, those in the humanities and fine arts had the lowest rate of full-time employment coupled with the lowest annual salaries. Graduates in the physical sciences and mathematics obtained substantially better salaries than others in the arts and sciences and were more likely to have full-time jobs.

In the applied fields, the engineers clearly came out on top in both salary and full-time employment. The second highest rate of full-time employment was for graduates in the health services, which includes such profes-

TABLE 7. FULL-TIME EMPLOYMENT AND ANNUAL SALARY FOR ALL RECENT COLLEGE GRADUATES AND THOSE IN SELECTED FIELDS

Field of Study in Which Students Obtained Bachelor's Degree	Number of Respondents*	Percent Employed Full Time	Average Annual Salary†
Arts and Science			
Humanities or Fine Arts	137	61	$ 8,200
Biological Sciences	46	68	8,300
Physical Sciences or Mathematics	43	84	9,900
Social Sciences	223	64	8,600
Applied Fields			
Agriculture or Home Economics	41	78	8,800
Business	243	79	11,500
Education	274	73	8,700
Engineering	47	93	13,200
Health Services	73	90	10,900
All college graduates	1,901	73	9,500

*Based on graduates with bachelor's degrees who were not enrolled in October 1976.

†For those employed full time only.

sionals as nursing, occupational therapy, and medical technology. Ninety percent of these graduates were employed full time in October 1976, a figure that was 11 percent higher than graduates in business, although the latter obtained somewhat higher salaries.

VI. MARRIAGE AND FAMILY

This section of the report presents statistical findings on various aspects of marriage and family life, including changes over time in marital status, birth rates, family income, and sex-role orientations. As in previous sections, the discussion focuses on sex and race differences when pertinent and of general interest.

A. Marital Status and Stability

The number of "ever married" respondents rose from 36 to 53 percent for women between October 1974 and October 1976 and doubled from 18 to 36 percent for men during the same period. As can be seen in Figure 6a, the lowest figures were for blacks, with 41 percent of the women and 33 percent of the men ever married as of October 1976; the highest figures were for Hispanics, with 60 percent of the women and 47 percent of the men ever married; while the figures for white women and men were 55 and 36 percent, respectively.

Although the married respondents have not been married long enough to assess how most will fare, there already are early signs of marital disruption. In the case of women, 16 percent of the blacks who were ever married had been divorced, widowed, or separated by October 1976. The corresponding figures for white and Hispanic women were 10 and 7 percent, respectively (see Figure 6b). Oddly

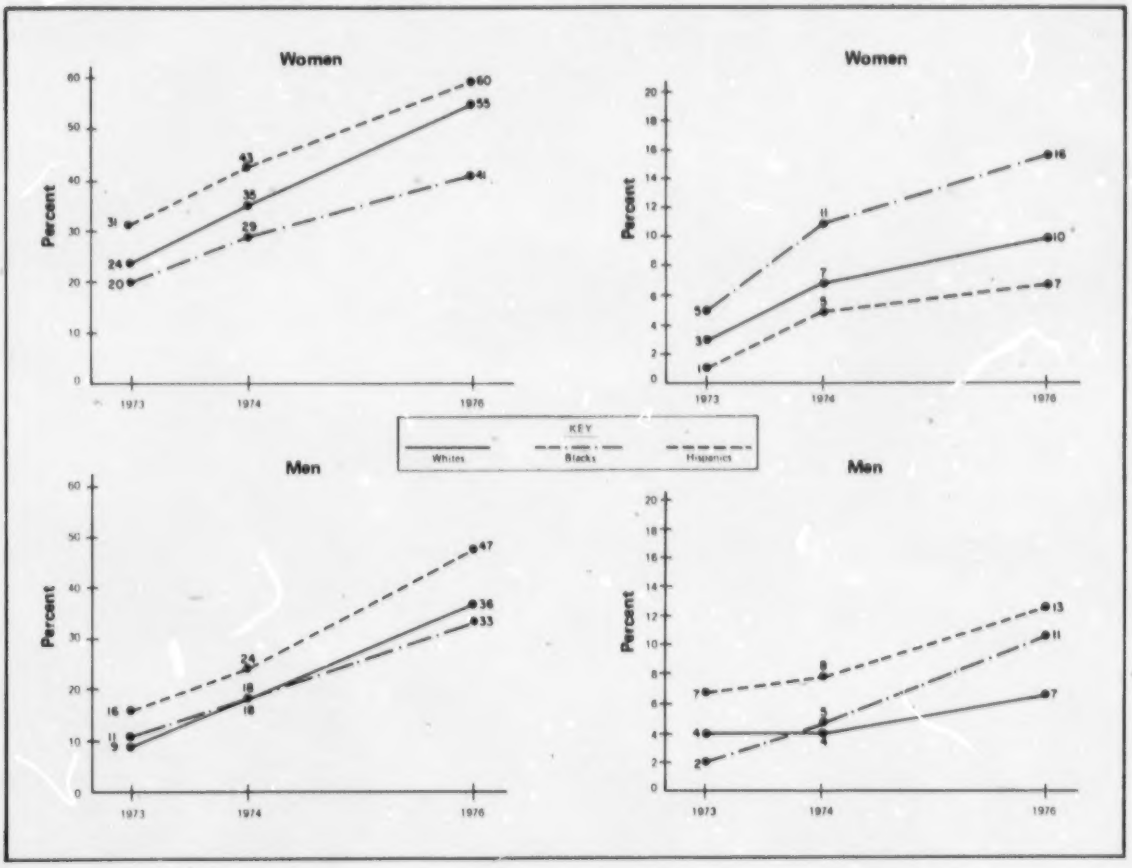

Figure 6a. Percent of cohort ever married.

Figure 6b. Percent of cohort ever married who are divorced, widowed, or separated.

TABLE 8. PERCENT WITH CHILDREN, BY RACIAL-ETHNIC GROUP AND ACADEMIC ABILITY

Race	Academic Ability Quartile			All Persons*
	Lowest	Second and Third	Highest	
Whites	30 (2,164)†	21 (5,242)	10 (3,486)	20 (15,149)
Blacks	49 (1,098)	33 (478)	6 (61)	43 (2,594)
Hispanics	34 (346)	30 (201)	10 (30)	33 (809)

*Includes persons not classifiable by academic ability.

†The figures in parentheses indicate the number of respondents upon which percentages are based.

enough, the corresponding figures for men differ somewhat. Hispanic men had the highest rate of divorce, with 13 percent. They were followed by black men, with 11 percent, and white men, with 7 percent.

B. Childbearing

Four years after high school, 23 percent of all respondents in the NLS had at least one child. The figure, however, varies greatly by racial-ethnic group. The figures were 43, 33, and 20 percent for blacks, Hispanics, and whites, respectively.

These differences are partly an indirect function of group differences in postsecondary educational attainment which, in turn, is associated with delayed marriage and childbearing. Among respondents in the highest academic ability quartile, there is little difference among racial-ethnic groups in the percentage who had children by October 1976 (see Table 8). However, at the middle and lower ability levels, the racial-ethnic differences are quite pronounced.

Independent of racial-ethnic group, academic ability appears to be a major factor in early childbearing. Among whites, for instance, three times as many of those in the lower academic ability quartile had children as compared to those in the highest.

Are these differences likely to persist as the cohort matures or are they a temporary phenomenon associated with group differences in age of marriage and going to college? The 1976 follow-up questionnaire included an item that asked, "How many children altogether do you eventually expect to have?" The mean number of children expected was 2.2 for whites and 2.4 for both blacks and Hispanics, not a large difference. The figure was identical, 2.2, for respondents in both the lowest and highest academic ability quartiles. Based upon the respondents' expectations, then, most present differences should disappear as those currently without children catch up to the early childbearers.

However, the respondents' projections for the future may not be very realistic. For one thing, there is strong demographic evidence clearly demonstrating that differentials in early childbearing tend to predict differences in completed fertility. (One reason for this simply is because the earlier a person has a child, the more years are left to have another.) Moreover, the short-term plans of the NLS respondents are not entirely consistent with their long-term expectations. In addition to being asked how many children they eventually expected to have, the respondents were asked, "When do you expect to have your first (next) child?" Those in the lower academic ability quartile were much more likely than those in the highest to indicate that they expected another (or their first) child within the next two years, 26 versus 12 percent, respectively. Thus, it will be many years before the more academically able respondents have as many children, if they ever do so.

C. Family Income

Median family income was examined for each racial-ethnic and sex group. It was found that the median household income was highest for Hispanics ($8,300 for both men and women), next highest for whites ($7,400 for men and $7,900 for women), and lowest for blacks ($5,900 for men and $5,000 for women). While this ordering is somewhat surprising, it does correspond to that produced by the percentage in each racial-ethnic group who were married.

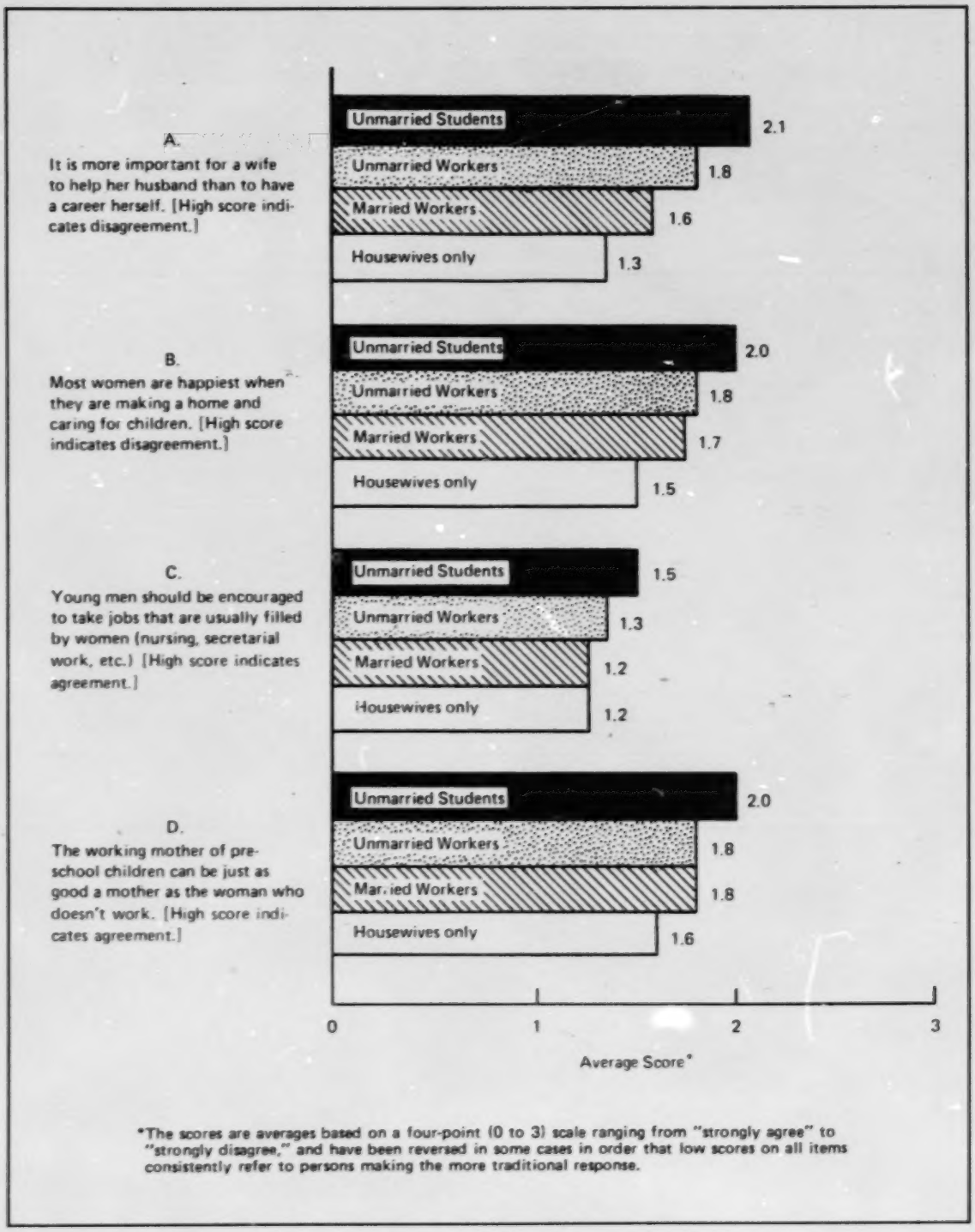
A.
It is more important for a wife to help her husband than to have a career herself. [High score indicates disagreement.]
Unmarried Students 2.1
Unmarried Workers 1.8
Married Workers 1.6
Housewives only 1.3
B.
Most women are happiest when they are making a home and caring for children. [High score indicates disagreement.]
Unmarried Students 2.0
Unmarried Workers 1.8
Married Workers 1.7
Housewives only 1.5
C.
Young men should be encouraged to take jobs that are usually filled by women (nursing, secretarial work, etc.) [High score indicates agreement.]
Unmarried Students 1.5
Unmarried Workers 1.3
Married Workers 1.2
Housewives only 1.2
D.
The working mother of preschool children can be just as good a mother as the woman who doesn't work. [High score indicates agreement.]
Unmarried Students 2.0
Unmarried Workers 1.8
Married Workers 1.8
Housewives only 1.6
0
1
2
3
Average Score*
*The scores are averages based on a four-point (0 to 3) scale ranging from "strongly agree" to "strongly disagree," and have been reversed in some cases in order that low scores on all items consistently refer to persons making the more traditional response.

Figure 7. Selected responses to statements about sex-roles expressed by various groups of women. (The number of respondents in each category were 658 unmarried students, 2,995 unmarried workers, 2,552 married workers, and 1,621 housewives.)

Differences in marital status probably also explain the fact that white women have a greater median family income than white men. About half of the women compared to only one-quarter of the men have spouses contributing to their household income. In the case of blacks, on the other hand, the average family income of men is higher than that for women, and in the case of Hispanics, the figures are identical for each sex. No explanation can be offered at this time for these results without more detailed analysis, since the rate of marriage and the percentage of households with spouses contributing to income are higher for women than men, just as among whites.

D. Sex-Role Orientations

The Third Follow-Up Questionnaire contained a series of items pertaining to the respondents' opinions about their lives and the world around them. Ten of the statements in this section dealt with attitudes toward the role of women in the area of jobs and careers, such as "It is more important for a wife to help her husband than to have a career herself." As might be expected, on all 10 items men were more likely than women to take the more conservative or traditional point of view.

Of perhaps more interest are some of the differences found among women themselves when simultaneously classified according to their marital, educational, and employment status as of October 1976. For ease of presentation, the data in Figure 7 are limited to a few of the more salient items and show the contrasting scores for just four groups of women:

(a) unmarried college women who were not working,
(b) unmarried working women who were not going to school,
(c) married workers who were not going to school, and
(d) married women who were neither working nor in school (housewives only).

The results again are not particularly surprising. The unmarried women still in school were consistently more likely than others to reject all traditional sex-role stereotypes and express more liberal opinions. In contrast, married women who are neither working nor in school were typically more likely to express traditional values. The attitudes of women in the labor force generally fell about midway between these two groups, although generally the responses of those who were both working and married more closely resembled the pattern of housewives than that of the unmarried students.

VII. OTHER EXPERIENCES AND OPINIONS

A. Voluntary Associations

The respondents were asked in both the second and third follow-up surveys to indicate whether they participated or held membership in a variety of voluntary associations ranging from unions to community service organizations. In the second follow-up, the period covered was the year October 1973 through October 1974, whereas in the third follow-up, it was the two-year period from October 1974 through October 1976. As highlighted in Table 9, church-related activities remain the most common mode of formal and semiformal association for the Class of 1972, with one in three reporting involvement. This is followed, in order, by participation in sports, 31 percent; involvement in social groups, 24 percent; and membership in unions or professional associations, 21 percent.

There were widespread, although not large, changes between the two periods in the percentage of members in most groups, all of which appear to reflect changes in lifestyle as the cohort enters the mainstream of adult society. For example, union or professional association membership showed the largest single rise, from 15 to 21 percent, which corresponds to the larger number of respondents holding jobs in 1976. On the other hand, the percentage in student organizations dropped slightly, reflecting declining enrollments, while those involved in such educational organizations as the PTA rose.

Further evidence of the relationship between membership in voluntary associations and the particular roles these respondents occupy is found when the data from the third follow-up are broken down by sex and marital status (see Table 9). For example, church membership is significantly higher for women and for married respondents. Women also are more likely than men to be involved in orga-

TABLE 9. MEMBERSHIP IN VOLUNTARY ORGANIZATIONS BETWEEN OCTOBER 1974 AND OCTOBER 1976
(in percentages)

Voluntary Associations	October 1973 through October 1974	October 1974 through October 1976				
		All	Men		Women	
	All Persons	Persons*	Married	Unmarried	Married	Unmarried
a. Church or church-related activities (not counting worship services)	32	33	35	27	40	33
b. Sport teams or sport clubs	29	31	36	44	17	24
c. A social, hobby, garden, or card playing group	22	24	21	25	24	26
d. Union, farm, trade, or professional association	15	21	29	24	13	18
e. A literary, art, discussion, music, or study group	12	12	7	14	7	16
f. Community centers, neighborhood improvement, or social-action associations or groups	9	10	8	10	7	12
g. Youth organizations – such as Little League coach, Scouting, etc.	9	9	11	13	5	8
h. Political clubs or organizations	8	9	7	11	6	10
i. Organized volunteer work – such as in a hospital	6	7	5	7	4	10
j. Educational organizations – such as PTA or an academic group	4	7	4	6	6	12
k. Service organizations – such as Rotary, Junior Chamber of Commerce, Veterans	3	5	5	6	3	3
l. A student government, newspaper, journal, or annual staff	6	5	3	7	2	8

*Includes those not classified by sex and/or marital status.

nized volunteer work, but only if they are unmarried. Married women participate less frequently in volunteer work, sports, politics, and literary and other cultural groups, as well as most other forms of community life outside the home. Over the two-year period, the only rise in associational memberships for married women was in church activity.

Men are more involved than women in union or professional associations, sports, and youth organizations like Little League or Scouting. Married men, like married women, are less involved than single men in most organized activities. This applies particularly to working with youth groups, political organizations, and literary and other cultural groups, as well as sports and social groups. The only activities in which married men are more active than single men are church and labor or professional associations.

B. Race and Sex Discrimination in Education

Contained in the Third Follow-Up Questionnaire was an item that asked, "Have you ever been given a special advantage or treated unfairly because of your sex (male or female) in any of the following situations?" The situations, listed separately, included "getting a good education," "getting a job, promotion, or other work benefits," and "getting a house or apartment." For each situation, the respondent was to indicate if he or she had been "treated unfairly" and/or "given special advantage." A person, of course, legitimately could claim both. Later in the questionnaire, the question was asked in the same form but in regard to race rather than sex discrimination. Presented below and in Figure 8 is a sampling of the results for the items bearing on the perceived educational experiences of the Class of 1972. Relatively few women or men believe that they have been treated unfairly in "getting a good education" because of their sex. The overall figures were 3 percent for whites and 8 percent for blacks and Hispanics. Moreover, the respondents who did say that they had been treated unfairly were equally divided by sex. Thus, there is perceived sex discrimination in education, but, relative to racial discrimination, it affected few respondents of either sex.

Far more persons claim they were given special advantage because of their sex, in fact about three times more than those persons who thought they had been treated unfairly. Logically, if perceptions matched reality, the figures should be the same since advantage for one is disadvantage for another. However, the respondents do not see it that way, possibly because each person in fact has only a partial view of what could be happening in any given situation. Also of interest here was the tendency for women more often than men to believe they had been given some special personal advantage in school or college because of their sex. The difference was especially pronounced among blacks, with 28 percent of the women versus 20 percent of the men saying they had been given special advantage.

This leads to one other result relative to sex discrimination in education for which there is no clear explanation: the consistently higher proportions among the minority groups who believe they had been given either some special advantage or had been treated unfairly because of their sex. Although sex differences in educational attainment, as shown earlier in this report, do not markedly differ across racial-ethnic groups, such differences are perceived by members of minority groups to be more salient. Or, possibly, in the case of blacks and Hispanics it is difficult in certain situations to separate a sex advantage or disadvantage from what may actually be a race advantage or disadvantage. An example is the problem of black women who, if they perceive having been given special advantage (such as admission to a particular college program), may not really know if it was because of their sex or because of their race. The findings on racial discrimination, to which we now turn, tend to support this hypothesis.

Only about 3 percent of the whites recall having been treated unfairly in getting a good education because of their race, a figure which is identical to the one given above for white males and females who thought they had been treated unfairly for reasons of sex discrimination. However, the percentages are much higher for Hispanics and blacks of both sexes (see Figure 8c). In other words, in contrast to finding essentially no difference between the sexes in the percentage who thought they had been treated unfairly because of their sex, very large differences are found between racial-ethnic groups in the proportions who thought they had been treated unfairly

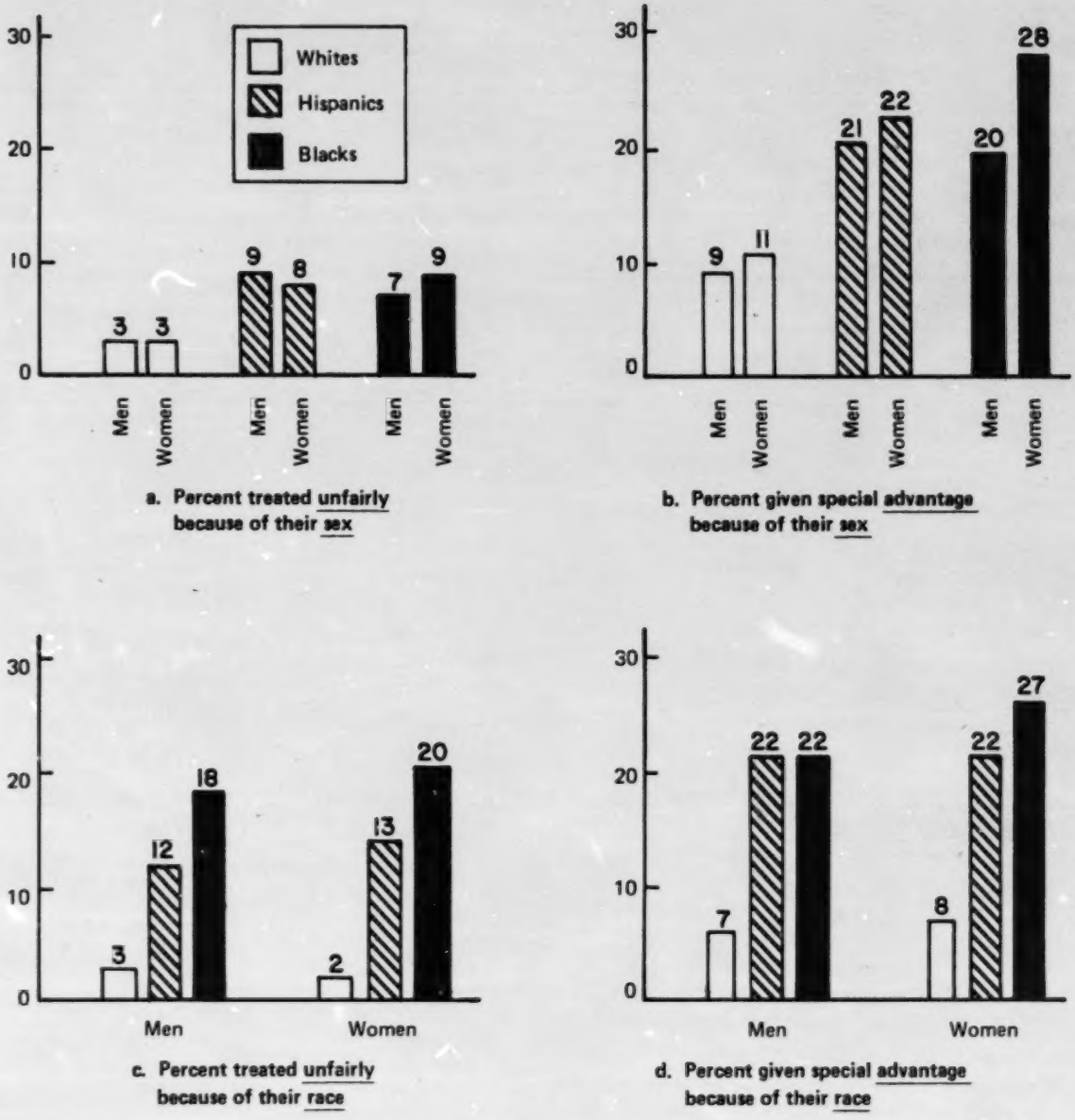

Figure 8. Perceived discrimination in education, by sex and racial-ethnic group.

because of their race. Race, not sex, is the perceived issue here.

Turning to the proportions in each group saying they had been given special advantages in education because of their race, it is the Hispanics and blacks who have the higher figures. In fact, more members of both minorities report having obtained some special advantage than report having been treated unfairly. Thus, perhaps not surprisingly, blacks and Hispanics far more often than whites have felt themselves to be both the victims and beneficiaries of racial discrimination during the course of their educational careers. More-

over, despite the relatively high percentage of blacks and Hispanics who feel they have been given a special advantage somewhere along the way because of race, the percentage of whites who claim they have been directly affected by discrimination in education, as already noted, is exceedingly small.

C. Feelings About High School

Before the Class of 1972 left high school, they were asked their feelings about the curricula in which they were enrolled and the counseling they had received. Several of these questions were repeated in almost exactly the same form in the Third Follow-Up Questionnaire. It was presumed that as alumni the respondents might evaluate their educational experience differently and perhaps with somewhat more wisdom after they had been out in the "real world" several years. Table 10 presents the results for both periods.

As noted, the picture is a largely negative one and has become more so with time, particularly with respect to the two items on counseling. For example, whereas 57 percent of the seniors thought their school had provided them with counseling that would help them continue their education, four years or so later only 39 percent thought counseling had been a help.

In 1976, nearly two-thirds of the respondents also felt that their school should have placed more emphasis on vocational and technical programs. A similar number agreed that their school did not offer enough practical work experience. Yet, at the same time, one-half of the respondents thought that their schools should have placed more emphasis on basic academic subjects. Thus, while a majority of the alumni clearly wish that their schooling had been more vocationally oriented and practical, there also is strong support for the current "back to basics" movement.

Perhaps not surprisingly, the desire for more emphasis on math, science, and English is most pronounced among blacks and Hispanics, particularly those coming out of vocational or technical programs in high school. As shown in Figure 9, 71 percent of the blacks and 66 percent of the Hispanics who had been in these programs wish that there had been more emphasis on basic academic subjects. Among whites, this figure was 49 percent. On the other hand, no comparable differences between racial groups were found in the proportion of respondents who agreed that their schools should have provided more practical work experience. Over half the respondents in all groups, irrespective of race or the program in which they had been enrolled in high school, thought the schools should be more vocationally oriented.

TABLE 10. FEELINGS ABOUT HIGH SCHOOL

Questions Asked	Percent Who Agreed	
	Base-Year Survey 1972	Third Follow-Up 1976
School should have placed more emphasis on basic academic subjects (math, science, English, etc.)	45	51
School should have placed more emphasis on vocational and technical programs	62	64
School did not offer enough practical work experience	59	65
School provided me with counseling that will help (helped) me continue my education	57	39
School provided me with counseling that will help (helped) me find employment	32	23

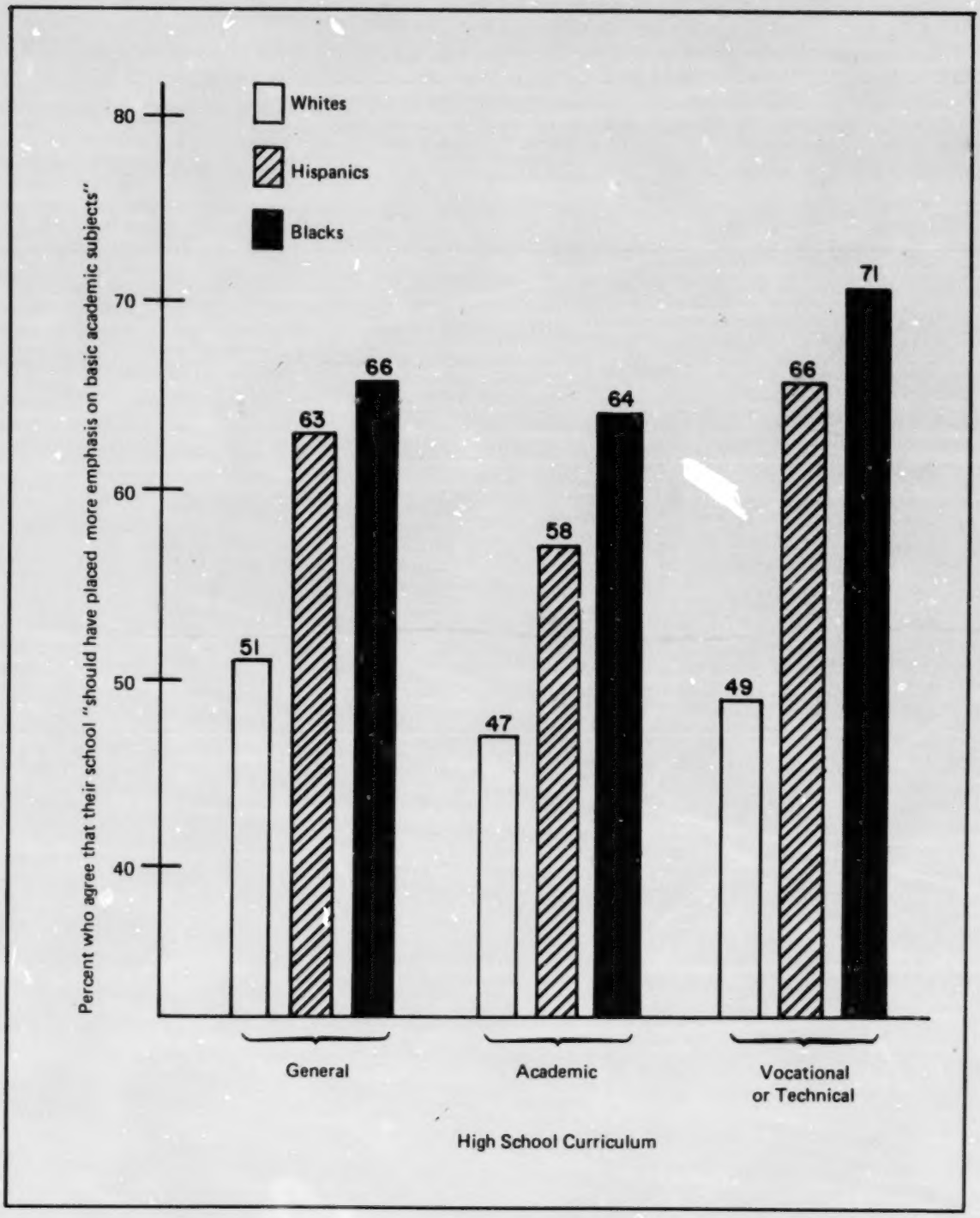

Figure 9. Members of the high school Class of 1972 who believe schools should emphasize basic skills, by racial-ethnic group and high school program.

APPENDIX A
PRECISION OF ESTIMATES

PRECISION OF ESTIMATES

All percentages presented throughout the report are weighted population estimates. An unadjusted weight for each of the selected students was calculated as a reciprocal of the school sample inclusion probability times the ratio of the number of seniors in a school divided by the number of sampled students in the school. The sum of the unadjusted student weights is an estimate of the total number of high school seniors in the population in 1972.

A weighting-class procedure was used to adjust the student weights for questionnaire nonresponse. The adjustment involves partitioning the entire student sample of respondents and nonrespondents into weighting classes. In an attempt to achieve some degree of homogeneity, students were grouped with respect to the following survey classification variables: race, sex, high school curriculum, high school grades, and parents' education. Thus, any differential response rates for students in each of the weighting classes are reflected in this adjustment.

The percentages in this report are estimates derived from a sample survey. Two types of errors are possible in such estimates—sampling and nonsampling. Nonsampling errors can be attributed to many sources—inability to obtain information about all cases in the sample, definitional difficulties, differences in the interpretation of questions, respondents' inability or unwillingness to provide correct information, mistakes in recording or coding data, and other errors of collection, response, processing, coverage, and estimation for missing data. Nonsampling errors also occur in complete censuses. The accuracy of a survey result is determined by the joint effects of sampling and nonsampling errors.

The standard error of an estimated percentage is a measure of the reliability of the estimate. It reflects the precision with which an estimate from a particular sample approximates the average result of all possible samples, which could be chosen according to a particular sampling scheme. The sample percentage and an estimate of its standard error permit the construction of interval estimates with a prescribed confidence that the interval includes the average result of all possible samples. Let us assume that all possible samples were selected in such a way that each was surveyed under essentially the same conditions. Then if a sample percentage and its estimated standard error are calculated for each sample:

- Approximately two-thirds of the intervals from one standard error below the estimate to one standard error above the estimate will include the average value of all possible samples.
- Approximately 95 percent of the intervals from two standard errors below the estimate to two standard errors above the estimate will include the average value of all possible samples.
- Almost all intervals from three standard errors below the sample estimate to three standard errors above the sample estimate will include the average value of all possible samples.

Thus, for a particular sample, one can say with specified confidence that the average of all possible samples is included in the constructed interval.

Approximate standard errors of questionnaire percentages for various numbers of responses are given in Table A-1. They are averages of many such values calculated for Third Follow-Up Questionnaire items. These approximations depend upon the closeness of the actual distribution of the statistics to the normal distribution. The normal approximation of sample percentages is satisfactory except for small samples and extreme percentage values.

TABLE A-1. STANDARD ERROR OF ESTIMATED PERCENTAGES FOR THE THIRD FOLLOW-UP SURVEY

Sample Size for Base of Percentage	Estimated Percentage										
	1 or 99	5 or 95	10 or 90	15 or 85	20 or 80	25 or 75	30 or 70	35 or 65	40 or 60	45 or 55	50
100	1.19	2.62	3.60	4.28	4.80	5.20	5.50	5.72	5.88	5.97	6.00
250	0.76	1.65	2.28	2.71	3.04	3.29	3.48	3.62	3.72	3.78	3.79
500	0.53	1.17	1.61	1.92	2.15	2.32	2.46	2.56	2.63	2.67	2.68
750	0.44	0.96	1.31	1.56	1.75	1.90	2.01	2.09	2.15	2.18	2.19
1,000	0.38	0.83	1.14	1.36	1.52	1.64	1.74	1.81	1.86	1.89	1.90
1,500	0.31	0.68	0.93	1.11	1.24	1.34	1.42	1.48	1.52	1.54	1.55
2,000	0.27	0.58	0.81	0.96	1.07	1.16	1.23	1.28	1.31	1.33	1.34
2,500	0.24	0.52	0.72	0.86	0.96	1.04	1.10	1.14	1.18	1.19	1.20
3,000	0.22	0.48	0.66	0.78	0.88	0.95	1.00	1.05	1.07	1.09	1.10
4,000	0.19	0.41	0.57	0.68	0.76	0.82	0.87	0.91	0.93	0.94	0.95
5,000	0.17	0.37	0.51	0.61	0.68	0.73	0.78	0.81	0.83	0.84	0.85
6,000	0.15	0.34	0.46	0.55	0.62	0.67	0.71	0.74	0.76	0.77	0.77
8,000	0.13	0.29	0.40	0.48	0.54	0.58	0.61	0.64	0.66	0.67	0.67
10,000	0.12	0.26	0.36	0.43	0.48	0.52	0.55	0.57	0.59	0.60	0.60
12,000	0.11	0.24	0.33	0.39	0.44	0.47	0.50	0.52	0.54	0.55	0.55
16,000	0.09	0.21	0.28	0.34	0.38	0.41	0.43	0.45	0.46	0.47	0.47
20,000	0.08	0.18	0.25	0.30	0.34	0.37	0.39	0.40	0.42	0.42	0.42

APPENDIX B
SPECIFICATION OF CLASSIFICATION VARIABLES

SPECIFICATION OF CLASSIFICATION VARIABLES

Six classification variables, used to define basic subpopulations of interest, are sex, high school program, race, geographical region, ability, and socioeconomic status. The second follow-up survey included an effort to collect basic classification information which had been reported as missing in prior NLS Capsule Descriptions. Significant reductions in missing data were achieved.

Sixteen sample members were omitted from sex group comparisons because of missing classification data. High school program is defined by three categories: general, academic, and vocational-technical (agricultural occupations, business or office occupations, distributive education, health occupations, home economics occupations, and trade or industrial occupations). The classification was based upon the student's own indication of his or her high school curricular program. If the student did not provide this information, the School Record Information Form, completed by the Survey Administrator, was used as a backup source of data. Twenty-seven respondents could not be classified in this respect, and they were excluded from analyses involving high school program group comparisons. Ethnicity (the race variable) consisted of four categories: white, black, Hispanic (i.e., Mexican-American or Chicano, Puerto Rican, and other Latin American origin), and other (Oriental, American Indian, etc.). Ethnic codes were missing from 19 sample members. For purposes of these analyses, results were reported separately for whites, blacks, and Hispanics. The remaining category, a residual one, was too heterogeneous in ethnic mixture to allow for meaningful separate analyses and reporting. The Hispanic group was relatively small (N = 901) and posed sample-size problems for some of the analyses, but it was felt that this group was homogeneous enough to allow for useful analyses.

The NLS sample can be classified into one of four regions in which the respondent's high school was located: Northeast, North Central, South, and West. There were no respondents with missing region codes. The states or districts in each of the regions are listed below:

(1) Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.
(2) North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.
(3) South: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.
(4) West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii.

The general academic ability index was derived from four base-year "Test Book" scores: vocabulary, reading, letter groups, and mathematics. Factor analysis of the test scores revealed a basis for constructing a composite score measuring general ability by forming an equally weighted linear composite of these four tests. Each test added to the composite was standardized to a mean of 50 and a standard deviation of 10. This summed continuous ability score was then classified into a high, middle, or low category depending upon whether the score was in the highest, middle two, or lowest quartile. The cutting points for defining these quartiles were based upon a weighted estimate of the test score composite standard deviation and the assumption that the weighted frequency distribution was normally distributed. However, because low socioeconomic students were oversampled and socioeconomic status (SES) is correlated with ability, more than 25 percent of the sample members fell into the lowest quartile of the ability composite. This is because the weighted estimate of the quartile takes into consideration that low SES (and low-ability) students were oversampled and gives an estimate of the population distribution parameters for the senior class of 1972. However, since the sample was overrepresented with low SES (and low-ability) members, it would be expected that more members of the sample itself would be in the lowest quartile. Finally, a substantial number of sample members (6,180) did not have test scores. Most of these sample members

were from the "resurvey" group who did not originally participate during their senior year when testing was conducted in the schools.

The SES is another derived index. This index was based upon a composite score involving five components: father's education, mother's education, parental income, father's occupation, and a household items index. These components were first subjected to a factor analysis that revealed a common factor with approximately equal weights for each of the five components. A continuous measure of SES was then computed for each respondent by averaging the standardized components. The continuous SES score was then assigned to a high, middle, or low category depending on whether it fell in the highest quartile, middle two quartiles, or lowest quartile. The cutting points for the quartiles were based upon the population SES distribution estimated using sample weights. Since schools located in low-income areas and schools with high proportions of minority group enrollments were oversampled, more than 25 percent of the sample members fell into the lowest quartile. There were 205 individuals who could not be classified by SES.

APPENDIX C
SPECIFICATION OF DATA SOURCES

SPECIFICATION OF DATA SOURCES

In addition to the classification variables previously mentioned, a variety of variables, primarily from the Third Follow-Up Questionnaire, were involved in the generation of the tables and figures in this report. In many cases the information was simply drawn from the tables produced for the third follow-up *Tabular Summary*. However, in some instances, it was necessary to produce additional tables. The following material documents the process by which each table and figure was constructed. Since there are many ways in which some variables may be defined, this documentation is necessary to avoid any misunderstandings which may arise once the data are reanalyzed and/or compared with other sources.

Table C-1 summarizes the sources of data for each table and figure in the report. In those instances where the source was simply the *Tabular Summary of the Third Follow-Up Questionnaire Data* (or any of the other questionnaire administrations) or the National Center for Education Statistics, the source and/or question number are indicated with no further documentation. Where special computer runs were employed in the generation of a table or figure, that fact is indicated and the process is further documented below. In subsequent discussion, question numbers preceded by BQ, FQ, SQ, or TQ indicate whether they are drawn from the base year, first, second, or third follow-up questionnaires, respectively. Variable names starting with *ACT* refer to constructed activity state variables documented in the *Data File Users Manual* (Levinsohn et al., 1978).

TABLE C-1. DATA SOURCES FOR NUMBERED TABLES AND FIGURES

Table	Source	Figure	Source
1	TS3 (1)	1	Special run
2	NCES	2	NCES
3	NCES	3	NCES
4	Special run	4	Special run
5	Special run	5	Special run
6	SFU Capsule Summary and special run	6	TS3 (129), TS2 (105), TS1 (7A)
7	Special run	7	Special run
8	TS3 (138B)	8	TS3 (149A & B, 150A & B)
9	TS3 (147), TS2 (131), and special run	9	TS3 (157)
10	TS3 (157)		

Abbreviations:
TSB—Tabular Summary of Student Questionnaire Data (from base year administration)
TS1—Tabular Summary of First Follow-Up Questionnaire Data
TS2—Tabular Summary of Second Follow-Up Questionnaire Data
TS3—Tabular Summary of Third Follow-Up Questionnaire Data
NCES—National Center for Education Statistics

Table 4

Academic college entrants for 1972 were defined through the use of a constructed variable—CACAD72.* Subjects with values of 1, 2, or 3 were included in this table. Subjects were classified as *graduated* if TQBA equaled 1 or 2. Subjects were classified as *still enrolled* if CACAD76 equaled 1, 2, or 3 and if they had not been classified as *graduated*. Those not classified into one of the above categories were defined as *dropouts*.

Table 5

Subjects were chosen for inclusion in this table if TQ48EA equaled 5, 6, or 7 and if TQ60 equaled 5. Field of graduate study was defined through the use of TQ62.

Table 6

Figures for *October 1974* were produced by taking Table 4 from the *Capsule Description of the Second Follow-Up Survey Data*. The category *military service* was removed and the percentages in the other categories were recalculated. The number of respondents in each category for *October 1974* is, therefore, an ap-

* All CACAD variables are defined in Eckland et al., "National Longitudinal Study: Constructed Educational Variables," Research Triangle Park, N.C.: Research Triangle Institute, May 1978.

proximation. Figures for *October 1976* were produced by selecting those subjects for whom ACT876 was not equal to 1 and cross-tabulating sex and ethnicity against TQ13AD.

Table 7

Subjects were chosen for inclusion in Table 7 if TQ49A was equal to 6 and if TQ52 was equal to 1. To determine full-time employment, TQ10 was used. Average annual salary was calculated for those with TQ10 equal to 1 by multiplying their response to TQ16 by 52 and rounding to the nearest hundred. Field of study was determined through the use of TQ75.

Table 9

Marital status was determined through the use of TQ129. Subjects with values of 1, 2, or 3 were classified as unmarried. Those with values of 4 were classified as married.

Figure 1

The information dealing with enrollment in school or college for October 1972 through October 1976 was produced using the activity state variables ACT172 through ACT176.

Figure 4

Subjects were selected for inclusion in this figure if they had responded to all those follow-ups and if they had obtained values of 1, 2, or 3 or CACAD76. Membership in each category was defined as follows:

Students with Bachelor's Degrees—Subjects for whom TQBA equaled 1.

Delayed Entrants—CACAD72 was equal to 0 and the subject was not in the first category.

Dropouts Who Returned—The subject was not included in one of the first two categories and CACAD73, CACAD74, or CACAD75 was equal to 0.

In a Five-Year Program—SQ22 was equal to 5 and the subject was not in one of the first three categories.

Part-Time Student—The subject was not in one of the first four categories and FQ33B, FQ27B, SQ16, or TQ70 equaled 2.

Other—Anyone not already categorized by the above.

Figure 5

Subjects were chosen for inclusion in this table if TQ60 equaled 5 and also one of the following: if TQ48EA equaled 5, or TQ48FA equaled 6, or TQ48GA equaled 7. Field of graduate study was defined through the use of TQ62.

Figure 7

Employment was defined using ACT176. School enrollment was defined using ACT476. Marital status was defined as for Table 9 using TQ129. Responses to TQ150 (1 to 4) were averaged for each statement within each group. The averages for some items were reflected so that higher averages always indicated more "liberal" responses.

Other Data

At the beginning of the section on postsecondary education is a table showing the percentage of respondents attending some form of postsecondary school or college as of each October between 1972 and 1976. The source of this information is basically the same as that for Figure 1. The information in the section dealing with family income was drawn from the third follow-up *Tabular Summary* using the table for question 141FA.